

CHECKLIST TO DESIGNATE AREAS OF EVALUATION FOR REQUESTS FOR PROPOSAL (RFP)

MDOT PROJECT MANAGER Linda Reed			JOB NUMBER (JN) 88736	CONTROL SECTION (CS) 82194
DESCRIPTION IF NO JN/CS Bridge Project Scoping I-75 over Rouge River in Metro Region, selected substructure units only				
MDOT PROJECT MANAGER: Check all items to be included in RFP. WHITE = REQUIRED GRAY SHADING = OPTIONAL			CONSULTANT: Provide only checked items below in proposal.	
Check the appropriate Tier in the box below				
<input checked="" type="checkbox"/> TIER I (\$25,000-\$99,999)	<input type="checkbox"/> TIER II (\$100,000-\$250,000)	<input type="checkbox"/> TIER III (>\$250,000)		
<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Understanding of Service	
<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<i>Innovations</i>	
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<i>Safety Program</i>	
N/A	<input type="checkbox"/>	<input type="checkbox"/>	Organization Chart	
<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Qualifications of Team	
<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Past Performance	
Not required as part of official RFP	Not required as part of official RFP	<input type="checkbox"/>	Quality Assurance/Quality Control	
<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Location. The percentage of work performed in Michigan will be used on all contracts unless the contract is for on-site inspection, then location should be scored for the on-site inspection.	
N/A	N/A	<input type="checkbox"/>	Presentation	
N/A	N/A	<input type="checkbox"/>	Technical Proposal (if Presentation is required)	
3 pages (MDOT forms not counted) (No Resumes)	7 pages (MDOT forms not counted)	19 pages (MDOT forms not counted)	Total maximum pages for RFP not including key personnel resumes	

REQUEST FOR PROPOSAL

The Michigan Department of Transportation (MDOT) is seeking professional services for the project contained in the attached scope of services.

If your firm is interested in providing services, please indicate your interest by submitting a Proposal, Proposal/Bid Sheet or Bid Sheet as indicated below. The documents must be submitted in accordance with the latest "Consultant/Vendor Selection Guidelines for Service Contracts" and "Guideline for Completing a Low Bid Sheet(s)", if a low bid is involved as part of the selection process. **Referenced Guidelines are available on MDOT's website under Doing Business > Requests for Proposals.**

RFP SPECIFIC INFORMATION

☒ BUREAU OF HIGHWAYS ☐ BUREAU OF TRANSPORTATION PLANNING ** ☐ OTHER

THE SERVICE WAS POSTED ON THE ANTICIPATED QUARTERLY REQUESTS FOR PROPOSALS

☐ NO ☒ YES DATED 1/1/07 THROUGH 3/31/07

<input checked="" type="checkbox"/> Prequalified Services – See page <u>1</u> of the attached Scope of Services for required Prequalification Classifications.	<input type="checkbox"/> Non-Prequalified Services - If selected, the vendor must make sure that current financial information, including labor rates, overhead computations, and financial statements, if overhead is not audited, is on file with MDOT's Office of Commission Audits. This information must be on file for the prime vendor and all sub vendors so that the contract will not be delayed.
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☒ **Qualifications Based Selection** – Use Consultant/Vendor Selection Guidelines

For all Qualifications Based Selections, the selection team will review the information submitted and will select the firm considered most qualified to perform the services based on the proposals. The selected vendor will be contacted to confirm capacity. Upon confirmation, that firm will be asked to prepare a priced proposal. Negotiations will be conducted with the firm selected.

**** For RFP's that originate in Bureau of Transportation Planning only**, a price proposal must be submitted at the same time as, but separate from, the proposal. Submit directly to the Contract Administrator/Selection Specialist, Bureau of Transportation Planning (**see address list, page 2**). The price proposal must be submitted in a sealed manila envelope, clearly marked in large red letters **"PRICE PROPOSAL – TO BE OPENED ONLY BY SELECTION SPECIALIST."** The vendor's name and return address **MUST** be on the front of the envelope. The price proposal will only be opened for the highest scoring proposal. Unopened price proposals will be returned to the unselected vendor(s). Failure to comply with this procedure may result in your bid being opened erroneously by the mail room.

For a cost plus fixed fee contract, the selected vendor must have a cost accounting system to support a cost plus fixed fee contract. This type of system has a job-order cost accounting system for the recording and accumulation of costs incurred under its contracts. Each project is assigned a job number so that costs may be segregated and accumulated in the vendor's job-order accounting system.

☐ **Qualifications Review / Low Bid** - Use Consultant/Vendor Selection Guidelines. See Bid Sheet Instructions for additional information.

For Qualification Review/Low Bid selections, the selection team will review the proposals submitted and post the date of the bid opening on the MDOT website. The notification will be posted at least two business days prior to the bid opening. Only bids from vendors that meet proposal requirements will be opened. The vendor with the lowest bid will be selected. The selected vendor may be contacted to confirm capacity.

☐ **Best Value** - Use Consultant/Vendor Selection Guidelines. See Bid Sheet Instructions below for additional information. The bid amount is a component of the total proposal score, not the determining factor of the selection.

☐ **Low Bid** (no qualifications review required - no proposal required.) See Bid Sheet Instructions below for additional instructions.

BID SHEET INSTRUCTIONS

A bid sheet(s) must be submitted in accordance with the "Guideline for Completing a Low Bid Sheet(s)" (available on MDOT's website). The Bid Sheet is located at the end of the Scope of Services. Submit bid sheet(s) separate from the proposal, to the address indicated below. The bid sheet(s) must be submitted in a sealed manila envelope, clearly marked in large red letters **"SEALED BID – TO BE OPENED ONLY BY SELECTION SPECIALIST."** The vendor's name and return address **MUST** be on the front of the envelope. Failure to comply with this procedure may result in your bid being opened erroneously by the mail room.

PROPOSAL SUBMITTAL INFORMATION

REQUIRED NUMBER OF COPIES FOR PROJECT MANAGER 3	PROPOSAL DUE DATE 3/15/07	TIME DUE 4:00 pm
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PROPOSAL AND BID SHEET MAILING ADDRESSES

Mail the multiple proposal bundle to the MDOT Project Manager or Other indicated below.

<input checked="" type="checkbox"/> MDOT Project Manager	OR	<input type="checkbox"/> MDOT Other
Linda M. Reed, P.E. - E020 Michigan Department of Transportation P.O. Box 30049 Lansing, MI 48909		Linda M. Reed, P.E. - E020 Secondary Complex 8885 Ricks Road Lansing, MI 48909

Mail one additional stapled copy of the proposal to the Lansing Office indicated below.

Lansing Regular Mail	OR	Lansing Overnight Mail
<input checked="" type="checkbox"/> Secretary, Contract Services Div - B225 Michigan Department of Transportation PO Box 30050 Lansing, MI 48909		Secretary, Contract Services Div - B225 Michigan Department of Transportation 425 W. Ottawa Lansing, MI 48933
<input type="checkbox"/> Contract Administrator/Selection Specialist Bureau of Transportation Planning B340 Michigan Department of Transportation PO Box 30050 Lansing, MI 48909		Contract Administrator/Selection Specialist Bureau of Transportation Planning B340 Michigan Department of Transportation 425 W. Ottawa Lansing, MI 48933

GENERAL INFORMATION

Any questions relative to the scope of services must be submitted by e-mail to the MDOT Project Manager. Questions must be received by the Project Manager at least four (4) working days prior to the due date and time specified above. All questions and answers will be placed on the MDOT website as soon as possible after receipt of the questions, and at least three (3) days prior to the RFP due date deadline. The names of vendors submitting questions will not be disclosed.

MDOT is an equal opportunity employer and MDOT DBE firms are encouraged to apply. The participating DBE firm, as currently certified by MDOT's Office of Equal Opportunity, shall be listed in the Proposal

MDOT FORMS REQUIRED AS PART OF PROPOSAL SUBMISSION

- 5100D** – Request for Proposal Cover Sheet
- 5100G** – Certification of Availability of Key Personnel

(These forms are not included in the proposal maximum page count.)

**MICHIGAN DEPARTMENT OF TRANSPORTATION
BUREAU OF HIGHWAY TECHNICAL SERVICES**

**SCOPE OF SERVICES
for
DEVELOPING BRIDGE SUBSTRUCTURE REPAIR ALTERNATIVES**

**CONTROL SECTION: 82194
JOB NUMBER: 88736**

**PROJECT LOCATION: B01-82194, I-75 over the Rouge River (mainline)
 B01-82194-5&6, I-75 over the Rouge River (ramps)**

This bridge (referred to as one structure for convenience) is located on I-75 over the Rouge River in the city of Detroit, Michigan. It is considered a "Big Bridge" because its deck area exceeds 100,000 square feet. The deck area of the mainline structure is more than 1,140,000 square feet (approximately 95 spans, 1.6 miles long and 8 lanes wide). The bridge is located in the Metro Region but the scoping project will be administered by the Bridge Operations unit in Lansing.

PRIMARY PREQUALIFICATION CLASSIFICATION: Bridge Project Scoping
DBE REQUIREMENT: 0%

The anticipated start date of the service is **July 9, 2007**
The anticipated completion date for the service is **October 12, 2007**

MDOT PROJECT MANAGER (MDOT PM):

Linda Reed, P.E.	(517) 322-5622 (office)
Bridge Scoping Engineer	(517) 322-5664 (fax)
Construction and Technology	reedl@michigan.gov
Secondary Complex	
8885 Ricks Road	
Lansing, MI 48909	

PROJECT DESCRIPTION: The Bridge Operations Unit of the Construction and Technology Division of the Michigan Department of Transportation (MDOT) is seeking a proposal from a Pre-qualified Consulting Firm (CONSULTANT) to evaluate substructure repair alternatives for a "Big Bridge" in the metro Detroit area and to recommend the most appropriate rehabilitation or treatment based on current conditions, remaining structure life and sound engineering judgment.

Due to the considerable size of this bridge, the scoping and subsequent rehabilitation will focus only on specific substructure elements at this time (see Appendix A). Therefore, the purpose of this project is to develop scope of work and cost estimates for the substructure rehabilitation of the identified piers and abutments on the mainline bridge and ramps.

The deliverable for this authorization will be the Scoping Report for this bridge. The information contained in the Scoping Report will be used by the Bridge Design Division to prepare rehabilitation plans. Therefore, in general terms, the content of the report will need to be sufficient to adequately convey the general physical condition of the specified substructure elements and the specific areas in need of repair. Current design standards and minimum requirement criteria must be taken into account when recommending repairs.

I. DURATION AND SCHEDULE

A. PROJECT DATES

Following is a schedule of target dates for this project:

- | | | |
|----|-----------------------------|---------------------------|
| 1. | Priced Proposal Submission: | May 2, 2007 |
| 2. | Anticipated NTP: | July 2, 2007 |
| 3. | Project Initiation Meeting: | July 9, 2007 |
| 4. | Draft Report Submission: | September 21, 2007 |
| 5. | Final Report Submission: | October 12, 2007 |

B. MILESTONE PAYMENT SCHEDULE

Compensation for this Scope of Services shall be on a Lump Sum / Milestone basis. Such Lump Sum compensation shall be divided into payments for the following portions of the services and in the following amounts:

- | | | |
|----------------------------------|--|------|
| 1. | All field work is complete on all structures | 40% |
| 2. | Draft report review is complete | 40% |
| 3. | Final deliverables complete and accepted | 20% |
| Total reimbursement for services | | 100% |

All Milestone Payment Percentages are negotiable except for the Final Deliverable Package. The MDOT Project Manager may authorize payment if the milestone is delayed due to circumstances beyond the Vendor's control.

C. PROJECT SCHEDULE

By submittal of a priced proposal, the CONSULTANT is verifying that they can meet the schedule identified in this scope of work. If the CONSULTANT cannot meet these deadlines, the reason for the required extra time must be detailed in the priced proposal. The priced proposal must include a schedule in the form of a Gantt chart showing major tasks during the fieldwork and report preparation. The CONSULTANT must notify the MDOT PM 48 hours prior to the site review date of any changes to this schedule.

D. MEETINGS

1. Project Initiation Meeting

A mandatory Project Kick-off Meeting will be held with the CONSULTANT prior to the start of the site review work. The CONSULTANT PM will be required to attend the meeting and it will be held at MDOT's Construction and Technology Office in Lansing unless an

alternative site is mutually agreed to. The CONSULTANT will be responsible for documentation and distribution of all meeting minutes.

2. Progress meeting

The MDOT PM will decide if a Draft Report Review and Progress Meeting will be held with the CONSULTANT during the report preparation period, or if this conversation can take place via phone or email. The MDOT PM and the CONSULTANT PM (report author) will be required to attend. Three copies of the draft report must be presented to the MDOT PM prior to the meeting. Questions on the report preparation may be asked at this time as well. The CONSULTANT is encouraged to ask questions throughout the duration of the project.

II. STAFF QUALIFICATION REQUIREMENTS

Staff qualifications must be submitted in a Proposal in accordance with the latest “Consultant Selection Guidelines for Service Contracts”, available on the MDOT website. The Proposal submitted by the CONSULTANT must identify staff assigned to the project and their respective roles. A resume for each of these individuals must also be included with the Proposal. The CONSULTANT must designate the following staff:

A. PROJECT MANAGER

The CONSULTANT must assign a Registered Professional Engineer (licensed in Michigan) as project manager, referred to herein as the CONSULTANT PM. This person must have three years experience in the design for rehabilitation of bridges in Michigan, or have previous experience as Bridge Scoping PM for a minimum of three MDOT projects.

A Registered Professional Engineer (licensed in Michigan) is required to be present at the site reviews. The CONSULTANT PM must attend all meetings and write the reports. This person will be the prime contact with the MDOT PM. If this person is unable to complete the project, the authorization will be terminated at that point and the CONSULTANT will be paid only for the work completed to that date. The CONSULTANT PM shall not change during the project unless agreed upon by the MDOT PM. Should this occur, the qualifications of the new CONSULTANT PM shall be reviewed by the MDOT PM for approval.

B. LEAD QA/QC

The CONSULTANT must assign a Registered Professional Engineer (licensed in Michigan) as lead QA/QC independent of the CONSULTANT PM to review all aspects of the project documents. The person performing the quality control review must have extensive experience with MDOT standards and practices. The CONSULTANT PM cannot be the lead QA/QC.

C. ADDITIONAL STAFF

The CONSULTANT must assign additional staff necessary to complete the work in the required time frame. The qualifications and experience of these individuals must be suitable for the assigned tasks.

III. DESCRIPTION OF WORK

The work for the bridge in this authorization is broken down into three main components: A) Site Review B) Engineering Analysis of Findings and, C) Report Preparation.

A. **SITE REVIEW**

1. **General**

The bridge and environs must be visited by the CONSULTANT PM. The purpose of this visit is to locate all areas of deterioration, determine feasible repair options, and to ascertain quantities. Where necessary, high-reach equipment or an under bridge inspection crane must be used to get close enough to evaluate the structural components (See Section V, **EQUIPMENT AND SAFETY**, below).

The information collected in the field must be sufficient to determine quantities and locations of repairs and improvements. This information must be detailed in the field notes and/or sketches and are to be included in the report.

- a. The following will be done during the site review of the bridge, for the specific substructure units identified in this scope of services:

- (1) Sound all substructure concrete elements (pier columns, caps, abutments, backwalls, etc.) for delamination and unsound areas. All delaminated areas are to be marked with spray chalk, crayon, or kiel, that will be evident in the photographs. **The use of paint is prohibited.** All delamination surveys are part of the site review work (not part of testing). Sketches of the substructure units mapping the areas of distress (cracks, delamination, spalls, etc.) are to be included in the appendix of the scoping report. The percent of the total surface area distressed shall be calculated and shown on each sketch.

Visually inspect all substructure units for signs of settlement, lateral movement, cracking, spalling, exposed reinforcement and material defects. **Visually examine fractured concrete to determine if it contains slag aggregate.** Note the condition of the backwalls, and check the bridge seat for undermining at bearing locations. For pier caps, check for flexural cracks and shear cracks. Note areas of previous repairs. Pictures of the area must be taken and a written description of the deterioration and location must be documented for inclusion into the report.

- (2) The CONSULTANT must contact the Detroit TSC Traffic and Safety section for assistance estimating the costs of maintaining traffic for the proposed rehab options. Final detailed traffic control costs for construction will be determined by MDOT.

- b. The area immediately around the structure must be closely evaluated to determine if there are any site issues or constraints that may have an impact during construction. These include items such as:

- (1) Utilities attached to or near the bridge.
 - (2) Signs or sign brackets attached to the bridge. Specify if the connections are bolted or welded.
 - (3) Railroad tracks that have been removed from over or under the bridge.
 - (4) Roads or parking lots beneath the bridge.
 - (5) Proximity of other bridge structures.
 - (6) Is drainage sufficient? Any evidence of ponding below the structure? Any evidence of erosion around pier columns or footings, or abutment slope paving?
 - (7) ITS components, such as cameras, changeable message signs, conduit, and other ITS elements.
- c. Additionally, the following items, if apply, must be evaluated and costs considered:
- (1) Is the bridge historical? (answer is yes for this structure).
 - (2) Does this bridge have special structural design features which may affect the repair options such as slag aggregate? (answer is yes for this structure.)
 - (3) Are there environmental issues that may impact the project?

If, during the site review, the CONSULTANT finds any structural condition that may cause the bridge to be load restricted (such as holes in beams, broken prestressing strands, significant loss of bearing, etc.), or which may require other immediate action (such as lane closures or emergency repairs to holes in the deck, temporary supports, false decking due to spalled concrete, etc.), the CONSULTANT will notify the MDOT PM as soon as possible. The CONSULTANT will be provided with a list of contact information of key personnel within MDOT in the event that the MDOT PM is unavailable. The CONSULTANT will provide documentation of the condition (such as beam measurements, pictures taken, etc.) to MDOT as quickly as possible.

2. Determining Repair Options

The bridge will be evaluated to determine the most appropriate repair option based on the physical condition of the bridge, economic considerations, and sound engineering judgment. **The repair recommendations are to be for the 2010 construction season.**

The following are the types of repair options that are to be considered:

- a. "Hold", or Defer work three to five years
- b. Substructure patching or replacement.
- c. Column wrapping or other unique treatment to address complications of patching concrete containing slag aggregate.

3. Photographs

Photo-documentation of the bridge and the surrounding areas must be included in the report. All of the pictures must be mounted on 8½" X 11" media and are to be captioned with a description of what the picture is intended to show. Each copy of the bridge report must have this series of pictures showing at least the following items (of the specified substructure units) and sequenced in the following order:

- a. Abutments, including wingwalls and slope protection
- b. Piers showing all faces
- c. Waterways / railroad tracks / roads below the bridge
- d. Major deteriorated areas
- e. Utilities
- f. Other items that could affect the cost of the construction.

In addition, pictures must be taken which will support the Consultant's repair recommendations. All pictures must be captioned to describe the general view (such as pier 7 north face, etc.) and to describe the pertinent item or deterioration.

4. Testing

During the site review phase, the CONSULTANT may determine that material testing is desirable to better understand the condition of the substructure and therefore make a better judgment on the best repair option. Advance approval by the MDOT PM is required prior to initiating any testing.

If the CONSULTANT PM determines that material testing is needed, a testing proposal must be submitted to the MDOT PM for approval. The testing proposal will show the bridge for which testing is to be performed, what tests are to be performed, what specific information is to be gained from the testing, how this information is to be used, and the cost of testing and necessary traffic control. Proposals submitted with insufficient justification for testing will be denied. Where the appropriate repair option is clearly indicated, material testing will not be performed.

The results and analysis of any testing that is approved and performed will be discussed in the Site Review Findings section of the report and the actual test reports will be included in the Appendix.

B. ENGINEERING ANALYSIS

The engineering analysis phase will include an evaluation of the site review findings, the preparation of and evaluation of repair strategies, including the preparation of cost estimates, and finally the selection of the best repair option.

Analysis of the load carrying capacity of the bridge will not be required.

1. Estimating Various Repair Options

Cost estimates for each of the Repair options will be prepared for each structure. A standard form "Bridge Repair Cost Estimate" worksheet with unit prices will be used (see Appendix B, **Bridge Repair Cost Estimate worksheet**). The Estimate Sheet, on 8½" x 11" paper, provides spaces to show all of the repairs to be performed for that call for projects year.

The estimates required are "early preliminary estimates" and not the more detailed "engineering estimates." The object is to determine the most economical method of treatment and to establish the budget. The more detailed estimates will be determined in the design phase (not a part of this authorization).

C. REPORT

The deliverables for this authorization will be the scoping report (including photographs, estimates, sketches, and other appendices), and all electronic files. Electronic files shall be submitted in compact disk (CD) form for all files used in the report. The scoping report and spreadsheets shall be in Microsoft Word and Excel, version 2002 or later. All digital pictures shall be in JPEG or other format, as approved by the MDOT PM. Electronic file templates for the cost estimating worksheet will be provided to the CONSULTANT via email from the MDOT PM.

A three-ring binder containing the scoping report as described below will be submitted. The binder will contain all information pertaining to the site review findings and recommendations for each bridge. Three sets of each binder will be submitted, first in draft form, then revised as necessary and submitted in final form.

The draft report will be a complete report, with 3 copies submitted to the MDOT PM. These will be reviewed by the Region Bridge Engineer, a Unit Leader in Lansing Bridge Design, and the Bridge Scoping Engineer. Comments and questions arising from those reviews will be given to the CONSULTANT to be incorporated into the final report if appropriate or addressed separately and submitted with the final report. Draft version copies will NOT be returned to the CONSULTANT unless prior arrangements have been made with the MDOT PM. However, all photos will be returned to the CONSULTANT to be reused in the final report.

Incomplete final reports or reports with errors will be returned to the CONSULTANT for revision. Failure to make the required changes will be considered a failure to meet the terms of the scope of work.

1. Part 1

Part 1 of the binder is intended to eliminate repetition of information common to each

bridge. Each section will be divided by tabs showing the section name. Each page in this section shall contain a footer with the Consultant's name and date in the lower right hand corner.

a. Table of Contents

b. General Site review Procedures

This section will summarize the general procedures used during the site reviews. This information will include a table showing the site review dates for each bridge, typical equipment used, typical traffic control procedures, typical site review procedures, etc. Any significant variations from this typical information can be stated under the **Field Site Review Findings** section for a specific bridge.

2. Part 2

Following the general information (above in **Part 1**) will be a section containing the information specific to each structure. Each section will be divided by tabs. Each page in this section shall contain a footer with the Consultant's name and date in the lower right hand corner.

a. Executive Summary

This is to include a statement of the recommended treatment for the bridge and the cost (in 2010 dollars) of the initial repair. The Executive Summary will be a "stand alone" section and will not refer to other sections of the report, nor will the main text refer to information in the executive summary.

The information to be included in the executive summary shall be as follows:

- (1) Recommended repair option, and cost in 2010 dollars.
- (2) The current NBI ratings for item 58A (deck surface), item 58 (deck), item 59 (superstructure), and item 60 (substructure) from the Bridge Safety Inspection Report.
- (3) The percent deficiencies of the substructure units.
- (4) Utilities on the structure. Identify the Region or TSC contact personnel for utility and maintenance of traffic issues (MDOT PM to provide this information).

b. Field Site Review Findings:

This section will include, as a minimum, discussion of the following areas:

- (1) Overall assessment of the condition of the bridge substructure. Reference to current NBI rating for item 60. Elaborate on the type, quantity and percent of substructure deficiencies.

- (2) Sketches of all substructure elements identifying size and location of distressed areas for all faces.
- (3) Site issues, i.e., geometrics, maintenance of traffic, utilities, scour, etc. If no site issues that would impact the rehabilitation of the structure were identified, a statement is to be made that all areas were investigated and no issues were found.
- (4) Testing results and implications to the repair options. If no testing was performed, this will be stated in the report.
- (5) The following outline may be used for a consistent presentation format for the body of this section of the report:
 - (a) Substructure (abutments, backwalls, wingwalls, piers, slope protection, scour)
 - (b) Bearings (general condition and noteworthy distress by visual inspection.)
 - (c) Site Issues
 1. Maintaining Traffic
 2. Signs
 3. Utilities
 - (d) Material Testing (if applicable)

c. Rehabilitation Options:

This section will include a discussion of the rehabilitation options, as described in **Determining Repair Options** and **ENGINEERING ANALYSIS**. For each option evaluated, the necessary improvements and the associated costs will be included. The report must include the reasoning and judgment for selection of the recommended option and the reasoning for the elimination of all other options. **A discussion of the limitations of rehabilitation on concrete with slag aggregate should be presented here as well.**

d. Summary with Repair Recommendation:

This section will summarize the recommended rehabilitation for the substructure and the factors used in determining this recommendation. This section will also include a brief discussion of the effects of postponing the recommended improvements.

e. Appendix:

- (1) Mounted photos with descriptions
- (2) Cost Estimate Sheets
- (3) Field notes and sketches
- (4) Lab test reports (if applicable)

IV. TRAFFIC CONTROL & PERMITS

A. TRAFFIC CONTROL & PERMITS

Traffic control, if needed during the site review, will be the responsibility of the CONSULTANT (with the exception of traffic control for the Reachall). Traffic control will follow standard MDOT procedures. Permits for the traffic control and for working in the MDOT right-of-way must be obtained from the MDOT Detroit TSC, prior the start of work. On the permit application, please indicate the Control Section and Job Number. Allow ample time for permit issuance. The CONSULTANT must follow all requirements as issued with the Permit from the MDOT TSC and must notify the Region Engineer and the TSC Manager in writing (with a copy to the MDOT PM) of the time and location of the work. Approval for nighttime work must be obtained prior to the start of work.

B. RAILROAD FLAGGING & PERMITS

If it is necessary to work over or immediately adjacent to an active railroad during the site review phase, the CONSULTANT will be responsible for obtaining the necessary permits and flagmen. Costs for this will be considered an expense and must be detailed in the traffic control section in the proposal and on the invoice.

V. EQUIPMENT AND SAFETY

The Consultant will be responsible for obtaining and operating the high reach equipment for inspection under the bridge. However, MDOT will provide an under bridge inspection crane (Reachall) for the Consultant's use in certain situations, for example, over river and railroad crossings. The Consultant will still be responsible for traffic control and for scheduling. Contact Mark Sandel, MDOT Statewide Maintenance, at 517-322-3326 a minimum of 14 days in advance to schedule use of the equipment.

All other inspection equipment and personal safety equipment such as hard hat, steel toed shoes, reflective vest, and eye protection will be responsibility of the Consultant. It is not the responsibility of MDOT to verify the Consultant's safety practices; however, the MDOT PM has the authority to have any individual who is found working unsafely removed from MDOT right of way. If the CONSULTANT is found to be working unsafely, the MDOT PM can stop all operations and terminate the contract.

VI. VENDOR PAYMENT

All invoices/bills for services must be directed to the Department and follow the 'then current' guidelines. The latest copy of the "Professional Engineering Service Reimbursement Guidelines for Bureau of Highways" is available on MDOT's Bulletin Board System. This document contains instructions and forms that must be followed and used for invoicing/billing; payment may be delayed or decreased if the instructions are not followed.

Payment to the Vendor for services rendered shall not exceed the Lump Sum amount unless an increase is approved in accordance with the contract with the Vendor. All invoices/bills must be submitted within 14 calendar days of the last date of services being performed for that invoice.

Direct expenses will not be paid in excess of that allowed by the Department for its own

employees. Supporting documentation must be submitted, with the invoice/bill, for all billable expenses on the Project. The only hours that will be considered allowable charges for this contract are those that are directly attributable to the activities of this Project. Hours spent in administrative, clerical, or accounting roles for billing and support, are not considered allowable hours; there will be no reimbursement for these hours.

The use of overtime hours is not acceptable unless prior written approval is granted by the MDOT PM. Reimbursement for overtime hours that are allowed will be limited to time spent on this project in excess of forty hours per person per week. Any variations to this rule should be included in the price proposal.

The fixed fee allowed for this project is 11.0%.

VII. GENERAL

Release of Information – The CONSULTANT may not release any information about the bridge or the scoping inspection to anyone outside of MDOT. The CONSULTANT is not allowed to make copies of the information in the bridge files unless given written approval from the MDOT PM.

VIII. APPENDICES

- A. List of Substructure Units to be Scoped**
- B. Bridge Repair Cost Estimate worksheet**

APPENDIX A

Substructure units to be scoped under this contract are listed below. These abutments and piers were selected after a visual examination of all substructure units. The pier numbering corresponds to the 1988 plansheets. Note that some of the piers support both northbound and southbound I-75, while others support only one direction of I-75.

<u>Mainline</u>	<u>NB Off-ramp</u>	<u>SB On-ramp</u>
Abutment A	none	Pier 4S
Pier 1		
Pier 12		
Pier 18		
Pier 20		
Pier 21		
Pier 22		
Pier 24		
Pier 28		
Pier 30		
Pier 31		
Pier 35		
Pier 42		
Pier 43		
Pier 44		
Pier 45		
Pier 48		
Pier 50		
Pier 51		
Pier 52		
Pier 56		
Pier 66		
Pier 69		
Pier 76		
Pier 78		
Pier 81		
Pier 82		
Pier 83		
Pier 84		
Pier 85		
Pier 88		
Pier 91		
Pier 92		
Pier 97		
Pier 102		
Pier 103		
Pier 104		
Pier 105		
Abutment B		

CALL FOR PROJECTS **BRIDGE REPAIR COST ESTIMATE**

ENGINEER:

DATE:

DECK AREA:

SFT

STRUCTURE ID:

LOCATION:

DECK DIM:

PRIMARY REPAIR STRATEGY:

STR. TYPE:

WORK ITEM	QUANTITY	DIMENSION	UNIT COST	TOTAL
NEW BRIDGE				
Multiple spans, Concrete (add demo. & road approach & traffic control)		SFT	\$125.00 /SFT	
Multiple spans, Steel (as above)		SFT	\$135.00 /SFT	
Single span (or multi span over water) (as above)		SFT	\$150.00 /SFT	
Pedestrian Overpass		SFT	/SFT	
Other				
NEW SUPERSTRUCTURE				
Concrete (includes removal of old super & new railing, add traffic control & apprao		SFT	\$95.00 /SFT	
Steel (as above)		SFT	\$115.00 /SFT	
Over Water (add to new superstructure cost)		SFT	\$20.00 /SFT	
Other				
WIDENING				
Added portion only. _____ ft of width (add road approach widening)		SFT	\$150.00 /SFT	
Other				
NEW DECK				
Includes removal of old deck & new railing (add traffic control & approach)		SFT	\$65.00 /SFT	
Other				
DEMOLITION				
Entire bridge, grade separation		SFT	\$24.00 /SFT	
Entire bridge, over water		SFT	\$31.00 /SFT	
Other				
SUPERSTRUCTURE REPAIR				
Concrete Deck Patch (includes hand chipping)		SFT	\$35.00 /SFT	
HMA Cap (no membrane - add bridge rail if req'd)		SFT	\$1.25 /SFT	
HMA Overlay with WP membrane (add bridge rail if req'd)		SFT	\$5.50 /SFT	
Removal of Concrete Wearing Course (latex) or Epoxy Overlay		SFT	\$3.35 /SFT	
Removal of HMA Overlay		SFT	\$1.10 /SFT	
Epoxy Overlay		SYD	\$35.00 /SYD	
Shallow Overlay (includes joint replmt & hydro, add bridge rail if req'd)		SFT	\$21.00 /SFT	
Deep Overlay (includes joint replmt & hydro, add bridge rail if req'd)		SFT	\$23.00 /SFT	
PCI Beam End Repair (\$2000-\$4000 per beam end)		EA	\$3,000.00 EA	
Repair Structural Steel (\$2000 bolted, \$6000 welded)		EA	\$5,000.00 EA	
Paint Structural Steel		SFT	\$8.50 /SFT	
Partial Painting		SFT	\$12.75 /SFT	
Pin & Hanger replacement (includes temporary supports)		EA	\$6,700.00 EA	
Other				
SUBSTRUCTURE REPAIR				
Pier repair (measured x 2) Replace unit if spalled area > 30%		CFT	\$200.00 /CFT	
Pier repair over water (measured x 2)		CFT	\$225.00 /CFT	
Pier replacement		CFT	\$55.00 /CFT	
Abutment repair (measured x 2)		CFT	\$200.00 /CFT	
Temporary Supports for Substructure Repair		EA	\$1,500.00 EA	
Slope Protection repairs		SYD	\$66.00 /SYD	
Other				
MISCELLANEOUS				
Expansion or Construction Joints (includes removal)		FT	\$440.00 /FT	
Bridge Railing, remove and replace		FT	\$250.00 /FT	
Thrie Beam Railing retrofit		FT	\$30.00 /FT	
Deck Drain Extensions		EA	\$300.00 EA	
Scour Countermeasures		LSUM	LSUM	
Other				
ROAD WORK				
Approach Pavement, 91/2" RC (add C & G, GR, Slope, Shldr.) 40' ea. end		SFT	\$8.00 /SFT	
Approach Curb & Gutter (18' ea. quad.)		FT	\$38.00 /FT	
Guardrail Anchorage to Bridge (<40')		quads	\$1,450.00 /quad	
Guardrail, Type B or T (beyond GR anchorage to bridge, <200')		FT	\$21.00 /FT	
Guardrail Ending (end section)		EA	\$1,720.00 /EA	
Roadway Approach work (beyond approach pavement)		LSUM	LSUM	
Utilities		LSUM	LSUM	
Other				
TRAFFIC CONTROL - Unit Cost to be determined by Region or TSC T&S				
Part Width Construction		LSUM	LSUM	
Crossovers		EA	EA	
Temporary Traffic Signals		set	\$15,000.00 /set	
RR Flagging		LSUM	LSUM	
Detour		LSUM	LSUM	
Other				
CONTINGENCY (10% - 20%) (use higher contingency for small projects)		%	\$0.00	\$0.00
MOBILIZATION (5% max)		%	\$0.00	\$0.00
INFLATION (assume 4% per year, beginning in 2007)		%	\$0.00	\$0.00

(DOES NOT INCLUDE PE & CE)

CONSTRUCTION TOTAL**\$0.00**